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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

July 4, 1931.

Not for publication without
prior consent of this division.

REPORT FOR THE WEEK ENDING JULY 4, 1931.

HAVRE: (Report for the two weeks ending July 4, 1931.)

There were two light showers during the week ending June 27, totalling .40 inch of rainfall. This was not enough to relieve crops more than temporarily as the maximum temperature was over 90 on two days, being 100 on the 26th.

Crops continued to suffer badly during this week. Some corn was damaged rather severely on the 26th and 27th.

The week of July 4 has been slightly more favorable. A heavy shower fell the evening of June 29, totalling .40 inch. This was accompanied by a heavy wind. There was some run-off from cultivated surfaces. The wind caused damage to flax and alfalfa that was emerging, requiring reseeding. This shower was followed by a day of heavy wind movement and evaporation amounting to .512 was recorded.

A slow rain began falling the night of July 2 and .88 inch has fallen up until noon to-day, July 3. It is still raining. This will help stockmen a great deal. However, the rain is a little late for a great many grain crops. It seems as though at least 75 per cent of the spring grain in the Triangle has been damaged beyond recovery. Most farmers now are making plans for sufficient feed to get their livestock through the winter.

Most of the spring grains seeded on the ordinary dates are headed where not too badly damaged by drought. Winter rye was harvested and winter wheat is turning.

The past June has been an unusually unfavorable one as is shown by the following table giving a summary for 1931 as compared to the station normal:

Average maximum for 1931	80.1	Normal	74.3
" minimum " "	52.3	"	49.7
" mean " "	66.2	"	62.1
Total precipitation	1.59 inches	"	2.76 inches.
" evaporation	9.147 "	"	6.426 "

Maximum temperature 98; minimum 48; precipitation, .95 inch,

JUDITH BASIN:

For the greater part of the week the weather has been very dry but with the exception of one day the temperatures were low for this time of the year.

It has been raining intermittently to-day, July 3. At noon the precipitation measured .25 inch.

Despite the cool weather crops made very slow progress. Early seeded spring wheat is heading on very short straw and with the most favorable weather from now on only fair yields can be expected. Sixty-day oats on the rotations have begun to head. Alfalfa hay harvest was completed with the yields averaging about one-third of an average crop.

Station visitors during the week were Dr. C. E. Leighty, Mr. J. M. Stephens, Mr. G. W. Morgan, and Mr. M. A. Bell.

Maximum temperature 94; minimum temperature 38; precipitation, .25 inch.

HUNTLEY:

Following the hot weather of the fore part of the week the last two days have seemed unseasonably cold. Several heavy showers have passed around the station lately and brought much needed moisture to the bench lands and range country. Although most crops are past recovery the rains have added a little moisture to summer fallow and have replenished some of the stock watering holes many of which had dried up for the first time in many years.

Winter wheat on most fields is nearly ripe and where the crop is considered worth cutting the harvesters will no doubt be at work within the next week. On the plots the winter grains have about reached maturity whereas spring grains that have survived the ravages of the season are in bloom. Although no measurable precipitation has been received for some time the stands of beans, potatoes and sorgo have increased considerably.

Field work has consisted of taking stand and height measurements on winter grains, cultivating roads and alleys and completing haying operations.

Maximum temperature 103; minimum 41; precipitation, none.

SHERIDAN:

The first of the week was the warmest of the year to date, but the remainder of the week was more moderate, with the last two days quite cool. With no precipitation firing of crops continued. The wheat in Rotation 570 is still standing with but little firing, and the two fall plowed fallow plots are still in fair condition, with the remainder of the fallow plots now fired very nearly as bad as other tillage methods were last week.

Corn and other crops seeded after the middle of May still remain in fair condition, although the corn curls some during the day. Winter wheat and barley are turning color. The most of the winter wheat, and the barley on fallow seems to be filling fairly well, although the heads are short.

Crested wheat grass and brome were cut, and haying was completed. One field of crested wheat grass yielded at the rate of 1560 pounds per acre. Brome in Rotation 41 yielded at the rate of 150 pounds and 450 pounds per acre, respectively, for the second and third year from seeding. This was about as good as any of the brome.

The second cultivation of row crops was started during the week.

Hogs were weighed and put on Sudan grass pasture.
Maximum temperature 104; minimum 44; precipitation, none.

DICKINSON:

A rain of .72 inch during the night makes a total of 3.82 inches recorded since June 20. This amount of rain has greatly improved the crop outlook. Pastures and late seeded crops have benefited most. Early seeded grains are short, thin, and spotted with a good many fields very weedy. Corn, potatoes, and other row crops have grown rapidly.

Alfalfa is being cut. The growth is short, thin and weedy.

Good stands had emerged on June 30 of the late seeding of several crops made on June 25.

Corn on the rotations and all other row crops were cultivated during the week. Weeds have grown rapidly and considerable hoeing and hand cultivation was done.

Dickinson, continued:

Fallow on the rotations was cultivated with the duckfoot.

Dr. C. E. Leighty and Mr. J. M. Stephens visited the station on June 27, and Director Trowbridge on July 2.

Maximum temperature 97; minimum 46; precipitation, 1.32 inch.

Precipitation for the six months ending June 30 amounted to 6.69 inches; deficiency, 1.74 inches.

MANDAN:

Agronomy

The past week has been only partly favorable for field work. Light showers interfered with haying operations, which started during the week.

Winter rye is practically ready for harvest. This is the earliest date of ripening for this crop since it has been grown at this station.

Corn was given the second cultivation; peas were plowed under for green manure and late fallow was plowed.

The total rainfall for June was 1.65 inches as compared with the 55-year average of 3.44 inches.

A few very hot days occurred during the week but it is cold at present and chilly in the wind.

Small grains have enough moisture to keep going so long as it remains cool, but would soon burn with hot weather. A few plots of small grain are badly burned at present. Fall plowing is poorer than spring plowing for most grains.

Maximum temperature 102; minimum 49; precipitation, .85 inch.

Cooperative Grazing Experiment

Native vegetation is looking fairly good at present, and with normal rainfall there will be plenty of feed in the larger pastures. The production of native hay will be light.

Mandan, continued:

Cooperative Grazing Experiment, continued.

The steers made good gains during June. The gains of the steers on brome grass were somewhat below normal, due perhaps to their heavy gain in May and the slow growth of brome grass in June. The cattle made the following gains in June and for the season:

Pasture (acres)	Gain in pounds per head	
	June	45 days
100	92.5	198.0
70	105.0	201.5
50	110.5	205.5
30	72.5	170.0
Rotation (70)	78.2	180.7
Brome (25)	85.0	193.8
Brome (10) *	77.8	204.9

* Formerly the sweet clover pasture.

Arboriculture

All caragana seedlings and hedges have been sprayed during the week. Considerable damage has been done to this species by blister beetles during the past two weeks.

All nursery stock has been cultivated and hoed.

Mr. E. J. George returned June 29 from a five day trip inspecting shelter belts in southwestern North Dakota. Five, ten and fifteen-year plantings are very satisfactory. New plantings set out this spring show a heavy mortality in some species.

Horticulture

Juneberries and currants are now ripening and will be picked early next week.

The Golden or Ribes odoratum currant is badly infested with worms this year. Berries having the worms ripen prematurely and are being picked off and destroyed.

Apples and crabs were worked over for blight again.

Mandan, continued:

Horticulture, continued.

The lawns were irrigated and the gardens and potatoes cultivated.

Dr. Leighty visited the station for four days and left on the afternoon of the 3rd for South Dakota, accompanied by Mr. J. M. Stephens and Mr. T. K. Killand.

BELLE FOURCHE:

Abnormally hot weather continued during the fore part of the week, but the last four days have been cloudy and comparatively cool. Several light showers occurred, but the precipitation was not sufficient to be of any benefit to crops. During a thunder storm on July 2 a few scattered hail stones measuring over an inch in diameter fell at the station, but several miles further north and east the hail was much heavier, and measured over six inches deep on level ground in some localities. Crops were completely destroyed over a wide area and considerable livestock was killed.

The past month was next to the hottest June in the history of the station. The mean temperature was 72 degrees which is only one degree lower than the high record month of June, 1911. The precipitation for the past June 1.24 inches below normal, and a total of only 4.96 inches precipitation has been received during the first half of the current year as compared with the average, for the 6-month period, of 8.55 inches.

Small grain is maturing very rapidly, but many of the heads even on the better plots are completely blasted. Corn has reached a critical stage but has not commenced to burn, although the leaves remain curled without recovering during the nights. Potatoes have not suffered seriously from lack of moisture, and sorgo continues to make a good growth.

Winter rye was harvested July 3, and other field work has consisted chiefly of cultivating fallow and green manure plots, roads, and alleys.
Maximum temperature 106; minimum 51; precipitation, .46 inch.

ARDMORE:

The hot weather continued unabated during the first part of the week. On June 30 a temperature of 106 degrees was recorded. This is the highest June temperature recorded at this station. During the latter part of the week temperatures were more moderate, but still up to normal.

The average maximum temperature for June was 89.3 degrees. This is 6 degrees higher than any previous average maximum for the month at this station. The evaporation was 10.811 inches. This is the highest evaporation for a single month ever recorded at this station.

Precipitation for the first six months of the year was 4.32 inches. The average for this period is 9.17 inches.

All grain crops continued to fire and some of the fields and plots are beginning to ripen. Yields will of course be very low.

Corn and sorgo made very good growth during the week. Corn is now over two feet high but will not be able to develop much further without rain. On one field the corn is curling badly during the hot part of the day.

The steers on the reserve pasture were moved on account of water shortage and are now in the small reserve pasture near the beef cattle shed.

All of the water available from Hat Creek is now in our cisterns and unless rain falls within the next two weeks we must begin hauling water.

Much small grain in this section is being cut for hay.

Visitors at the station were: Mr. John L. Emerson and Mr. E. M. Kreutser from Cheyenne, Wyoming.

Maximum temperature 106; minimum 61; precipitation, none.

ARCHER:

During the last half of June the weather was dry and rather warm. The maximum temperature was 94 degrees and the minimum 47 degrees. Maximum temperatures of 90 degrees or above occurred during six days of the last week of June. This is very warm weather for this locality. The precipitation during this period was .43 of an inch, thus July started off very unfavorably for crops. To-day, July 4, it is cooler.

Archer, continued:

Small grains are badly in need of rain. Winter wheat and barley have headed and the spring wheat and oats are heading. These crops are burning. Corn and beans have grown rapidly. Potatoes are at a standstill. Perennial forage crops are very short and are burning.

Work at the station has consisted of cultivating the corn and potatoes twice and the beans once. The corn on the rotation plots has been hoed, most of the alley ways have been hoed and the tracts of land north of the farmstead are being hoed. All corn in the dairy field has been cultivated twice and the beans and peas once.

Mr. T. R. Stanton, of the Division of Cereal Crops and Diseases, visited the station June 24.

AKRON:

A long hot period extending over the past 14 days was broken by general rains throughout this section early this week. Since that time the weather has been noticeably cooler. Temperature was above 90 during 13 of the past 14 days. June passed with 2.20 inches of rainfall, about .23 of an inch less than normal.

The rain of .66 of an inch received early this week was only temporary relief for the rapidly growing crops such as corn and by this week-end the corn was rolling markedly during the mid-afternoon period. Small grains are drying-up and it looks now like everything would be ready to harvest at once, beginning early next week.

Regular date seedings of beans and millet were made promptly on July 1. Grain and hay millet variety experiments were also seeded on the 1st and 2nd, immediately following the rain of .66 inch, with excellent prospects for immediate emergence.

Insects and diseases are operating with telling affect on the plant kingdom of this region this year. The grasshopper menace on this station appears to be under control for the present, but not until after considerable damage had been done to several of the rotation small grain plots. Small beetle resembling the striped cucumber beetle is skeletonizing the bean leaves. Blister beetles are ever present threatening the foliage of economic plants and shrubs.

Akron, continued:

Other than seeding work consisted largely of odd jobs about the station.

Professor John H. Parker, of the Kansas Station and Messrs. John B. Sieglinger and Edmund Stephens, of the Woodward Station, visited Wednesday forenoon, July 1. Dr. Hurley Fellows and Mr. L. W. Boyle have been here during the week-end making studies of wheat foot rot at this station and over the adjoining country side.

Maximum temperature 99; minimum 54; precipitation, .66 inch.

NORTH PLATTE:

Harvest has progressed rapidly during the week. All winter wheat is now in the shock, except two D.I.A. plots and a few late nursery rows. Most of the spring grains will be ready to harvest during the coming week.

The first rain for 17 days came on June 30, in a shower of .20 inch. This added to the rains of early June brought the total on the table to 4.10 inches. On the bench the total was 2.70 inches. A second rain for the week came on the night of July 3, with .40 inch at the table gauge. This was accompanied by a sudden drop in temperature, and to-day, July 4, is so cool that coats are needed for comfort.

COLBY:

The hot weather and hot winds of last week continued this week until the end of June. Temperatures of 100, or more, were recorded on seven consecutive days. The last three days it has been cloudy much of the time and comparatively cool. Rain has been threatening but none came until last night when we got a series of heavy showers in the night. To-day, July 4, it is still raining.

Harvesting was getting under way before the rain. Part of the D.I.A. winter wheat was harvested with the combine Wednesday and Friday, July 1 and 3. The continuously cropped plots, except those following the row crops are ready for the combine. Those following row crops and most of those on fallow are not quite ready. They all will be by the time we can get into the fields after this rain. The oats and barley will also be ready in a few days.

Colby, continued:

The corn on the project was cultivated for the second time. There was still an ample supply of moisture beneath the surface.

Maximum temperature 101; minimum 60; precipitation, 1.47 inches, all on the night of July 3.

Maximum temperature for June 102; minimum 47; precipitation, 2.00 inches. The precipitation for June was, .94 inch below the 44-year average. Total precipitation for 1931, January 1 to July 1, 7.89 inches; 44-year average, 9.33 inches.

GARDEN CITY:

The entire project in row crops was cultivated the past week. Sorghums are making rapid growth. Weeds had begun to show up considerably. The cultivator did not get all thistles and buffalo burrs. It will be necessary to do considerable hoeing next week.

Wheat cutting was finished on the station the forepart of the week. All wheat on the Dry-Land project was so dry and wooly it was impossible to shock and it had to be left lying on the ground. The new land at the north of the station, which goes into methods of winter wheat production, beginning this fall, had to be cut with a commercial combine. The plots were so uneven, due to grass in them that individual yields on each plot would not have been of any value to check the soil variation.

The extended dry, hot spell of June came to an abrupt end with a total rainfall of 1.32 inches on Thursday night and Friday morning, July 2 and 3. Since June 20 there were nine days of 100 degrees or more. Wind velocity was much above normal. Sorghums are already beginning to show quickened growth. General combining of wheat fields will start Sunday or Monday.

Maximum temperature 102; minimum 67.

HAYS:

Harvesting with combine commenced on the project June 29. Because of needed changes to be made on the combine, and the fact that the wheat was none too dry little progress was made in harvesting June 29 and 30, but everything was ready for a good start July 1. Rain interfered. Harvesting was again started about the middle of the forenoon on July 3 and a good run made the remainder of the day and plans laid for a long day's run on the 4th, but more rain during the night again interfered. When it is dry enough to run the combine performs nicely and there is no reason now why harvesting should not proceed rapidly as soon as our showers are over.

Hays, continued:

Wheat generally is turning out much better than was expected. Yields from plots threshed to date range from about 7 bushels to 42 bushels per acre with very few running below 20 bushels.

Corn and sorghums are making rapid growth, and looking fine. Spring wheat is having ideal weather for maturing a good crop, plenty of moisture and cool weather during the last few days. Temperatures have ranged from 49 to 88. Total precipitation for the week, about 1.50 inches.

TUCUMCARI:

Work the past week consisted primarily of thinning row crops, with some hoeing, and the threshing of small grains being performed. Moisture conditions the past eight months have been unusually favorable and wind velocity was lower than usual this spring, so wheat yields compare rather closely with county yields on heavier soil. Early plowing, continuous, compared closely with fallow.

	Winter wheat		Winter rye	
	acre bu.	test wt.bu.	acre bu.	test wt.bu
M.C.A. cont., late plowed	16.3	64½	13.0	58
M.C.B. " early "	27.2	63½	23.9	57½
M.C.D. on fallow	27.5	63	23.0	57½

The week was comparatively cool and calm, with precipitation on three days.

Maximum temperature 92; minimum 54; precipitation, 1.23 inches.

DALHART:

A gentle rain which measured .87 inch on July 2 relieved the drought and the row crop condition is now better than since it was planted.

Thinning has progressed during the week rather slowly due to the short week and to the fact that the rain delayed thinning for a day and a half. There still remains about four days thinning of the middle of June planting. All ground must now be worked again after the rains. There was hardly enough moisture received to wet the hard soil to the plowing depth. Three plots were plowed to-day, July 4, but a rather uneven job was done due to the plow share riding on hard ground.

Dalhart, continued:

The grain sorghums and corn have been doing nicely before the rain. Corn is growing fast, especially on some land which was early fall plowed.

The cultural treatments for winter wheat were threshed during the week. Yields varied from 22.3 bushels to the acre on early fall disking to 40.2 bushels to the acre on fallow. The test varied between 61 and 62. There was a very high per cent of yellow berry in all of the wheat except that grown on fallow.

June precipitation was .85 of an inch which compares with a 26-year mean of 3.06 inches for the month. The yearly deficiency in rainfall to July 1 from the mean was 1.93 inches.

Maximum temperature 96; minimum 64; precipitation, .87 inch.
Wind velocity, 5.8 miles per hour; evaporation, 2.408 inches.

BIG SPRING:

Dry, hot weather has prevailed during the greater part of the week. Rain has threatened on several occasions, but in each case only a light sprinkle was received. With the exception of corn, which is starting to roll during the middle of the day, all crops seem to be making a good growth in spite of the dry weather.

Thinning of milo plots in the rotations was completed during the week. This together with the thinning of the June 15 date of grain and forage sorghums completed the thinning of the sorghums. Only a few plots of late cotton remain to be thinned. Other work has consisted of knifing and cultivating increase fields and plots.

Maximum temperature 98; minimum 65; precipitation, .03 inch.

LAWTON:

Another week of blistering temperatures that ranged from 97 to 105 imposed a critical handicap on vegetation of all kinds, especially corn that is tasseling and some of the early maturing varieties and crosses of grain and forage sorghums that are heading. Cotton has made but little growth the past ten days and an occasional square is seen on some of the earlier plantings. Alfalfa, sweet clover and native grasses are suffering intensely.

Lawton, continued:

Threshing of oats progressed steadily most of the past week. The yields will be reported whenever an opportunity becomes available for cleaning and weighing the grain. Threshing of variety grains, wheat, oats and barley, remains to be done, and this work will necessarily be slow and tedious because of the necessity of saving pure seed.

Only about 10 to 15 per-cent of the small grain crop in Comanche County was harvested with the combine this year. Ideal threshing weather has prevailed since harvest and another week will practically complete the season. Farmers are storing as much grain as possible and just a very few have stacked the bundle grain with the idea of holding it for some time.

Old separators and engines that have been idle for 5 to 10 years were repaired and put into service this year. Seven or eight new separators were sold locally this season.

The local market for wheat, oats and barley is .35, .17, .22 cents per bushels respectively.

The maximum temperature of 104 on July 4 dropped to 67 in the evening when a strong wind from the north blew steadily all night. The wind velocity for the 24-hour period was 11.5 miles per hour and the evaporation exceeded one-half inch.

WOODWARD:

The past week has been pleasant, but small showers on three days have interfered with cultivating, harvesting and threshing. The few plots of wheat which were threshed showed heavy yields and good quality.

Work of the week has consisted of threshing and cultivating; spraying the vineyard for grape leaf hoppers and root worms; removing sprouts from grapes and stocks of grafted, walnuts, persimmons, pecans, pistache, peaches and apricots.

Conifer seed beds are showing some damping off, particularly those untreated and those treated with aluminum sulphate. Those treated with hydrochloric and sulphuric acids show the least.

Maximum temperature 100; minimum 70; precipitation, .84 inch.
Evaporation, 2.042 inches.

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U. S. DEPARTMENT OF AGRICULTURE

July 11, 1931.

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REPORT FOR THE WEEK ENDING JULY 11, 1931.

HAVRE:

The week was generally a favorable one following the rain of 1.39 inches of the previous week.

Plants that were not injured too severely from drought made satisfactory growth. With only two small showers, there was no interference in the field work.

Except on July 10, when the maximum temperature reached 93 degrees. temperatures were 90 degrees or below. Evaporation was also low for the week.

Oats and barley are showing slight recovery following the rain but wheat shows little stimulation in growth. Early winter wheat is being harvested this week. Because of the short growth, a mower with a buncher is being used. Yields will be very light. The crop, however, is very free from weeds especially when the light growth is considered. Stands of corn are somewhat irregular and growth is rather slow.

The feed situation in this section of the state has improved since the rain. Many fields of wheat are now heavy enough to cut for feed. Where stock are available, many fields of spring wheat will be cut for feed instead of for grain. Range grass has made a fair start. The hills show more green than they have this season. With cool weather for a few days now, native grass would be in good condition.

Dr. C. E. Leighty and Mr. J. M. Stephens were station visitors on June 26. Professor Clyde McKee, of the Montana Experiment Station, was here on July 8.

Maximum temperature 93; minimum 48; precipitation, .20 inch.

SHERIDAN:

The most of the week was somewhat cooler than for some time past, but the last of the week was extremely hot again. There was no rain of consequence, and crops continued to deteriorate where not already completely burned up. Corn began to fire early in the week. Close seeding of sorgo also fired early in the week, while the close planting of Sudan grass is now firing. The fall plowed plots of corn seems to be firing more than the spring plowing. All corn in the variety field, fall plowed, is firing badly except listing, which is still in good condition and has made practically as as great a growth as the corn with level culture. The field of corn on sod, broken up this spring, also is in good condition.

Sheridan, continued:

Vaughn barley in outplots of the rotation field, winter wheat in Rotation 258, winter rye, and Bangalia field peas were harvested. The Vaughn barley seems to be about the best spring seeded small grain on the station this year, and now appears to be the only grain among the late seeded varieties on spring plowing that there will be anything at all to harvest. The wheat in Rotation 570 still appears good.

About 30 farmers visited the station on the county farm tour conducted by the County Agent.

Maximum temperature 103; minimum 37; precipitation, .19 inch.

JUDITH BASIN:

Crops have made very slow progress during the week. Light showers Sunday and Monday, together with the rain of July 3, refreshed things to some extent but the beneficial effects lasted only for a day or two.

Considerable winter wheat is being harvested for hay and it is probable that much of the spring wheat acreage will also be cut for hay.

Most of the work about the station during the week has been preparation for the annual farmers' picnic, which will be held on July 16.

Professor Clyde McKee visited the station during the week.

Maximum temperature 91; minimum 36; precipitation, .21 inch.

HUNTLEY:

The weather during the past week has continued warm and dry. Spring grains are rapidly drying ripe and should soon be ready for harvest. Cutting of winter wheat has been in progress throughout this locality during the last few days. Reports on yields being obtained range from 8 to 20 bushels of winter wheat to the acre. However, as most farmers are cutting only the best patches in their fields the reported yields are not averages for the acreage planted.

Field work at the station has consisted of plowing late fallow plots, cultivating row crops and building fence.

Maximum temperature 99; minimum 46; precipitation, none.

MANDAN:

Agronomy

Frequent rains interfered with all field work during the past week. Rain has been recorded on nine days so far this month. The morning of July 11, .65 inch was recorded with the rain still falling.

Part of the hay has been cut and has been through several showers. The delay in haying has allowed some of it to become too mature.

Winter rye was harvested early in the week.

Weeds are coming on rapidly because of the delay in field work.

The rainfall so far this month has been 2.17 inches, which is nearly normal for July.

All crops have improved during the week. Some small grain on the poorer methods of tillage cannot recover from the effects of the drought in May and June. Corn is now in excellent condition and is the best crop on the station.

The entire week has been cool for this time of year.
Maximum temperature 91; minimum 45; precipitation, 1.45 inches.

Cooperative Grazing Experiment

All native vegetation has improved during the week. Blue grama grass is now making a rapid growth, and will furnish much grazing.

The steers are all in excellent condition.

Horticulture

Juneberries and part of currants in the variety test were picked this week. There was a very light yield of Juneberries, the crop having been consumed by birds or marauderers over the holidays. Currants are of fair quality but the yield is rather light due to poorly filled clusters.

Mandan, continued:

Horticulture, continued.

Vegetables are looking fine but the season of most crops is much delayed due to replanting and unfavorable growing conditions earlier in the season.

Pocket gophers have been rather destructive to vegetables this season but persistent placing of poisoned carrots in their burrows seems to have got the best of them at the present time.

The lawns on the grounds are improving daily after the rains. The recently purchased power lawn mower is a great help in caring for them at the proper time.

All groups and roads were again hoed, and hedges on the premises sheared a second time.

Mr. A. C. Dillman, Seed Flax Investigations; Mr. S. C. Salmon, in charge, Wheat Investigations; Mr. J. Allen Clark, Western Wheat Investigations; Mr. Clyde McKee, Professor of Agronomy, Montana State College, Bozeman; and Smith-Hughes classes from Hazelton, North Dakota and New England, North Dakota, visited during the week.

BELLE FOURCHE:

The weather during the week has been comparatively cool, except on July 10, when a maximum temperature of 99 degrees was recorded and a strong,hot wind prevailed. A couple of light thunder showers occurred, but no precipitation of any value to crops was received.

Crops were not injured seriously during the cool weather by the continued lack of moisture, but were damaged extensively by the hot wind on July 10. Potatoes and corn have commenced to burn, and spring wheat is maturing very rapidly. Except for a few plots on fallow, harvesting of winter wheat, barley, oats, and flax has been completed. Flax on sod was a complete failure, and oats after small grain, corn, and sorgo were practically a failure, being so short and thin to necessitate cutting with a mower.

Dr. C. E. Leighty, Mr. J. M. Stephens, and Mr. T. K. Killand visited the station July 5 and 6.

Maximum temperature 99; minimum 43; precipitation, .04 inch.

ARDMORE:

The weather during the week alternated between cold and hot. On July 5 a maximum temperature of 97 degrees and a minimum temperature of 42 degrees occurred.

One shower occurred during the week, but the amount of rain was only .35 inch and it afforded very little relief to crops.

All of the barley has been harvested and some of the fields of oats are in the shock. Nearly all of the oats in the rotations will be ripe the first of next week. Yields of oats and barley will be very low.

Practically all plots of wheat are firing badly and the crop will be a nearly complete failure regardless of future conditions.

Corn on all fields is wilting badly. Some of the fields are already badly damaged, and a continuation of the hot, dry weather will result in a failure of the corn crop. Sorgo is growing rapidly but is still too small to have exhausted the reserve of moisture in the soil.

The water situation is steadily getting worse. It is now 18 days since Hat Creek ceased flowing. We have enough water remaining in the storage cistern to supply the needs of the station for about ten days longer. Water in all of the pastures is exhausted and we have been hauling water to the steers for the past three days. It is necessary to haul the water a distance of seven miles.

Maximum temperature 102; minimum 42; precipitation, .35 inch.

ARCHER:

During the greater part of the past week the weather was dry and rather cool. The last two days have been quite warm, the temperature reaching 94 degrees. Weather conditions permitted full time field operations.

Work at the station consisted of the various weeding operations and the cutting and piling of hay. All perennial forage crops on the plots in the experimental field have also been cut and piled and are being hauled and weighed to-day, July 11. Most of the Minhardi winter wheat in the dairy field has been cut for hay.

Archer, continued:

All crops except beans are in need of rain. Yesterday and to-day, the corn rolled badly and the small grain crops are burning. Winter wheat is approaching maturity and would not be materially benefited by rain. The yield of the winter wheat crop will probably be about 18 bushels per acre.

Dr. C. E. Leighty and Mr. J. M. Stephens were station visitors July 7 and 8. Farmers' Field Day at the station took place July 10. Among the visitors were Governor and Mrs. Clark, of Cheyenne, President A. G. Crane, Dean J. A. Hill, Dr. Aven Nelson and Director W. L. Quayle, of the University of Wyoming, County Agents, E. O. Johnson, of Cheyenne, H. H. Simpson, of Greeley, Colorado, D. C. Bascom, of Fort Collins, and Home Demonstration Agent Mrs. Edith Andrew, of Cheyenne. Dr. A. C. Hildreth, Mr. M. F. Babb and Mr. J. L. Emerson, of the Central Great Plains Field Station, were also visitors.

Maximum temperature 94; minimum 39; precipitation, none.

AKRON:

Hot, clear weather for the entire past week. Harvesting has held attention of all hands and all teams all week. Two binders have been in the field with the result that a little more than half of the station's fall and early spring seeded small grain harvest is completed. A little more than half of the winter and spring grain nursery has also been harvested by this week-end. Harvest is anywhere from seven to ten days earlier than the average harvest date at this station.

Row crops are holding nicely though corn curls badly during the afternoon. Millets seeded July 2 have emerged from partial to full stands.

Dr. Karl S. Quisenberry spent practically the entire week here in the interest of winter wheat improvement work.

Mr. J. M. Stephens visited the station Thursday, July 9.

Maximum temperature 94; minimum 50; precipitation, none.

NORTH PLATTE:

Temperatures during the week were in striking contrast to those of the two weeks preceding. The mean maximum for the week was 79 degrees in comparison with 95 for the preceding week. Minimum temperatures for the two weeks were 64 and 53 degrees respectively.

Low temperatures showed up the ripening of spring grains somewhat, but the last of spring wheat on the D.L.A. plots is being harvested to-day, July 11. Yields will be much lighter than prospects indicated 15 days earlier.

Corn has been given its third and final cultivation. Recent growth has been rapid, and first tassels are beginning to appear.

COLBY:

The weather has been unusually cool this week, and rain has threatened nearly every day, but none has fallen since last Saturday when an additional .53 inch fell after the 8 o'clock reading was taken to bring the total of the July 4 rain up to 2.00 inches.

All the row crops are making rapid growth and show considerable promise at this time. Harvest is on in full swing. There is a great variation in yields as well as test weight. Yields range from below-5 to more than 45 bushels per acre for winter wheat, and the test varies between less than 50 to more than 60 pounds per bushel.

The harvest at the station was finished yesterday, July 10. The new combine mounted on a Caterpiller tractor performed very nicely after considerable grief in getting started. The oats and barley as well as the winter wheat were cut with it. The spring wheat was not harvested as there were only scattering heads in each plot that reached maturity. The winter wheat yields ranged between 6 to 42 bushels.

Maximum temperature 92; minimum 47; precipitation, .53 inch.

HAYS:

There has been a wide range in temperature during the week. Maximum 104, minimum 49. The Weather Bureau maximum thermometer located near the station headquarters registered only 102. The difference perhaps is largely due to the Weather Bureau instruments being sheltered somewhat from hot wind by trees on the campus. The early part of the week was very cool, but the temperatures gradually increased during the week until the 102 maximum was reached to-day, July 11.

Harvesting with the combine has been going unusually slow. Early in the week the wheat remained damp until nearly noon, and the wind was so high during the last few days it interfered considerably. Much of the wheat is badly lodged and tangled so that it has been necessary to cut low and this results in the handling of lots of straw which slows the progress a great deal. After to-day there will be left about two more days work on the project.

Spring wheat was harvested during the week. Also some of the kafir plots were cultivated and all the kafir on the borders was cultivated. Some of the early tillage work has been started for the 1932 wheat crop.

TUCUMCARI:

The week has been comparatively cool and cloudy, with two showers totaling .83 inch. Wheat harvest on the plains section of the county was delayed a few days as the result of frequent showers, so farmers are now in the midst of combining. Tucumcari buyers have paid from one to three cents more than surrounding markets, so more wheat has been brought in than ever before. Farmers are holding probably at least 50 per cent of the crop in granaries, bins, and piles in the field. The county yield will probably average about 20 bushels, with some fields going 35 to 40 bushels.

Station work has included knifing or cultivating plots and increase. thinning of late plots, plowing MCB wheat and rye and MFN milo plots, working of fallows, mowing weeds, and cultivation of tree rows.

Maximum temperature 93; minimum 54; precipitation, .83 inch.
Wind velocity, 5.4 miles per hour; evaporation, 2.233 inches.

DALHART:

The week has been characterized by four showers, which totaled only .93 inch; only one of these was large enough to prevent field work. The latter rain came the night of June 9 and the ground was too wet to do field work the 10th.

Thinning was completed the first of the week but it will be necessary to rethin some 500 rows due to emergence after the rain of July 2. This late-emerged sorghums will probably be due to pull by the first of the week. Cowpeas showed rather poor stands before the rain but practically all of the skips have been filled in by late emergence. All sorghums and corn are growing rapidly now, as are likewise weeds where missed in the cultural operations. Cotton appears to grow slowly but has a good color. Due to the showers the threshing was not completed this week. Soybeans present a very good appearance at this time. The native sod is again showing green since the showers.

Wheat combining on the surrounding farms is just about half completed. Both yields and test weight per bushel of wheat are above average. The row crops are freer of weeds than usual at this time of the year.
Maximum temperature 92; minimum 50; precipitation, .93 inch.
Wind velocity, 5.8 miles per hour; evaporation, 2.233 inches.

BIG SPRING:

Weather conditions in general have been very materially improved during the past week. During the night of July 8, 1.27 inches of rain were received. This was the first rain of any consequence that the station has received since the last of April. As a result of the short rainfall thus far the weed problem has not given much trouble, but from now on there will be plenty to contend with. All crops are presenting a very healthy color and are making a good growth. Several of the grain sorghums in the May 15 date of planting are starting to head.

Station work during the past week has consisted mainly of cultivating, knifing, and hoeing. Other work has consisted of trimming the hedge, and cleaning up the grounds generally.

Mr. Bower, who is in charge of the Agronomy Department of the Texas Technological College, was a station visitor July 10.
Maximum temperature 101; minimum 60; precipitation, 1.30 inches.

WOODWARD:

The fore part of the week was cool with heavy dews. The dews and light showers on the 7th and 8th slowed up both threshing and cultivating. However, threshing of all wheat varieties for the Cereal Office was completed and some progress was made toward threshing of wheat on new land to be devoted to Dry Land rotations. Weeds were mowed along fence rows and roads, and some progress made toward eliminating weeds, which had grown rapidly during the showery spell that started June 30 and ended July 8. The sorghums as well as the weeds have made very rapid growth over the past week, and there should be enough moisture in the soil to carry them well during the usual July drought.

Mr. S. S. Burton started July 8 on an inspection trip through the Texas Panhandle and Eastern New Mexico.

Farmers are very much discouraged over the low price of wheat, as they doubtless are every place, though the yield is far above normal. A great deal of it will be fed to livestock. Many binders and headers once discarded have been again put into service in harvesting.

Maximum temperature 100; minimum 59; precipitation, .11 inch.
Evaporation, 2.346 inches.

PENDLETON:

Harvest is in full swing in this section. Very fair yields are reported, some farmers reporting yields of forty bushels per acre, a few claiming fifty bushel yields. The wheat is of good quality and plump. The farmers are all complaining of more smut than usual. Wheat to-day is worth 35 cents a bushel in Pendleton.

On the station the field peas, winter wheats, spring barleys, oats and rates and dates of seeding winter wheat are harvested with the binder. The winter barley on the rotation plots was cut with a binder. We will start the combine on the rotation plots next week.

The summer so far has been very windy with frequent dust storms. A high wind on July 9 and 10 shattered the Mosida variety of wheat quite badly; in some cases estimated losses of ten to fifteen bushels per acre are reported. Farmers were advised of the shattering tendency of this wheat, but reports of high yields tempted many to sow it.

Pendleton, continued:

Dr. C. E. Leighty and Mr. J. M. Stephens, Division of Dry Land Agriculture; Messrs. Gaines, Bever, Vogel, Humphrey, Florell, Bayles, Clark, Sando, Fellows, Holton, Rodenhiser, Sprague, Boyle, Flor, Ferris and Stephens, of the Division of Cereal Crops and Diseases; and Messrs. Rocke and McGrew, from the Soil Erosion Station at Pullman, Washington, were station visitors during the past three weeks.

Maximum temperature 100; minimum 38.

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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

July 18, 1931.

Not for publication without prior consent of this division.

REPORT FOR THE WEEK ENDING JULY 18, 1931.

PENDLETON:

There is very little to report this week except that harvest is in full swing. We have been combining the rotation and tillage plots the past four days. Estimated yields of wheat after fallow range from forty to forty-eight bushels per acre, judging from the number of sacks per tenth-acre plot. No weights have been obtained as yet. Yields of rotation plots are considerably higher than last year.

The past week has been quite warm, ideal threshing weather. We have been able to start the combine by six each morning the past week. Maximum temperature 96; minimum 41.

HAVRE:

The past week has been quite favorable for this season of the year. Maximum temperatures were below 85 every day excepting July 17 when it was 92. Evaporation has also been low, being over .3 on only two days. Rain was recorded on the 14th and 15th, totalling .35 inch.

A great many crops have been injured so badly that they are total failures. However, some crops are making recovery. Barley is probably making more recovery than other small grain crops and spring wheat the least. Oats have improved quite noticeably. With reasonably cool weather from now on there should be fair yields of both oats and barley where grown on good fallow.

Corn made fair growth during the week but is short. A great deal of it is showing tassel at this time and very little of it is over two feet tall.

Native grasses have made a very decided growth since the rain. Where the prairie was parched and burned two weeks ago it furnishes fair grazing at this time.

Potatoes have made very good growth, as they were probably injured very little by the drought. Weed growth has been very rapid during the past week and it has been necessary to do considerable cultivating.

Havre, continued:

Station visitors during the week included Director F. B. Linfield, of the Montana Experiment Station, Messrs. Paul B. Pearson, of the Animal Husbandry Department of the Montana Experiment Station, M. P. Hansmeir, of the Montana Seed Growers Association, and S. C. Salmon and J. A. Clark, of the Division of Cereal Crops and Diseases.

Maximum temperature 92; minimum 49; precipitation, .35 inch.

HUNTLEY:

Thunder showers have occurred in neighboring communities during the past week but only a trace of precipitation was received at the station. High temperatures and hot winds have been almost daily occurrences and have left their mark on such crops as corn, sorgos and potatoes, which are about the only annual plants not yet harvested that have survived the drought.

Field work has consisted of cultivating fallow, hoeing row crops and building fence.

Maximum temperature 104; minimum 46; precipitation, trace.

SHERIDAN:

Hot weather with considerable wind continued over the entire week. Temperatures of 100 degrees or above were recorded on four days of the week. The few crops that remain green at all continued to fire accordingly.

The most of the winter wheat and barley in the rotations, the most of the barley varieties, the barley in Field G, except fallow, and a seed block of Meloy barley were harvested. The last date of plowing for fallow, the third year alfalfa and brome in Rotations 41 and 42, and a 2½-acre field of crested wheatgrass sod were plowed.

Maximum temperature 104; minimum 49; precipitation, .01 inch.

There were several thunderstorms with high wind.

DICKINSON:

Hot weather has dried out the soil so that all crops are again showing the need of water. Small grains are firing some and corn and other row crops have wilted during the heat of the day.

Alfalfa and sweet clover on the rotations, which were cut on July 9, were weighed and hauled in. All yields were light and the quality of hay was poor.

Considerable small grain in the locality is being cut for hay.

Rye varieties were harvested July 17. Yields were very light as the straw was short and the heads poorly filled. The rye plots on the rotations have been let stand for the second growth, which came up after the rains and is now taller and promises a better yield than the early growth.

Corn on the rotations is beginning to tassel. It has wilted badly the past few days but now promises much better yields than in 1930. Millets and cane have made good growth and will make more feed than any of the small grains. A seeding of millet and flax was made on July 15 on land that had been fallowed up till the time of seeding.

Mr. W. J. Sando, Division of Cereal Crops and Diseases, visited the station July 13.

Maximum temperature 98; minimum 48; precipitation, .18 inch.
Precipitation July 1 to 18, 1.59 inches.

MANDAN:

Agronomy

Rain during the week again interfered with haying and cultivation.

Fallow was duckfooted during the week and most of the haying was completed.

Winter wheat is practically ripe. The indications are for a high yield for this station on fallow. It is the first time that winter wheat has come through on fallow here.

Weeds as well as crops have made a rapid growth during the past week. Corn is now most too large for cultivating.

Maximum temperature 97; minimum 56; precipitation, .71 inch.

Mandan, continued:

Cooperative Grazing Experiment.

Pastures are now very green and are furnishing excellent grazing. The 30-acre pasture is short but blue grama grass is growing rapidly. Grama grass is starting to head abundantly in many places.

Horticulture

Currants and gooseberries have been picked. Long Bunch Holland was the highest yielder among the currants, while Houghton was the highest yielder among the gooseberries. Diploma looked promising among the large-fruited currants. Sel. 26 gooseberry produced a good crop of early red fruits of good quality.

Black currants (Ribes odoratum) are now ripening and selections are being made in the breeding blocks. A few new gooseberry selections have also been made.

Weeds, encouraged by recent rains, have been making a rapid growth, keeping cultivators and hoes busy.

All hedges in the testing blocks were sheared again the early part of the week. Considerable new wood had been made since the last shearing and all species in the blocks are doing fine.

Weeds had made rapid growth since the last rains and all vegetable fields were again cultivated and hoed. Vegetables of all sorts are making rapid growth at the present. Peas are yielding well, carrots, beets, onions, and kohlrabi are in prime condition for table use. The first ripe tomatoes, about five pounds, were picked from the Acre garden July 18. Sweet corn is in tassel and silk and may be expected to furnish roasting ears in record time.

The flower beds on the grounds have picked up splendidly lately and all are in full bloom at the present time.

Among the visitors to the station the following were noted: Professor Clyde McKee, Montana State College; Dr. H. C. Hanson, North Dakota State College; Mr. W. J. Sando, Eastern Wheat Investigations, Washington, D.C., Washburn High School Agricultural Class, 18 boys in charge of Mr. B. P. Gorder, Smith-Hughes Instructor.

BELLE FOURCHE:

Hot, dry weather and strong, hot winds have prevailed throughout the greater part of the week. Maximum temperatures of 100 or above were recorded on three successive days. The sky has frequently been cloudy and threatening but only one light, negligible shower was received.

Corn and potatoes are suffering extensively from the hot, dry weather, and corn will be burned beyond recovery if rain is not received within the next week. A few of the stronger corn plants are attempting to tassel but most of the corn apparently will be unable to tassel unless rain is received in the next few days. Sorgo continues to make a good growth, but most of the available moisture in the soil of the sorgo plots is now exhausted. Spring wheat has rapidly "dried" ripe and is a failure or near failure, except where grown on fallow or after rye turned under for green manure.

Field work has included the harvesting of all but seven plots of spring wheat and the remaining oats, barley, and winter wheat. Corn, sorgo, and potatoes were cultivated and hoed.

Maximum temperature 102; minimum 59; precipitation, .07 inch.

ARDMORE:

Drought and excessive heat continued throughout the week.

The highest maximum temperature since the station was established was recorded on July 14.

Harvesting of small grain fields and rotation plots was completed during the week. Some early varieties of oats and all but two varieties of barley in the variety test block were harvested.

Mr. J. R. Dawson, of the Bureau of Dairying, visited the station during the week and installed a new milking machine.

Maximum temperature 108; minimum 59; precipitation, trace.

ARCHER:

During the past week the weather has been unusually warm and dry. The temperature reached a little more than 99 degrees. Temperatures of 95 degrees or above were recorded four days in succession. Such temperatures are rather severe at this altitude. It was somewhat cooler July 17 and 18.

The small grains have burned badly and the corn has rolled every day for two weeks. The millet has also rolled and at times looked as though it would not survive. Potatoes and beans have not, as yet, suffered severely however, a few leaves are turning yellow. The Northwest poplars have lost a large portion of their leaves and the leaves of the cottonwoods and silver poplars are turning yellow. Some of the chokecherry leaves have dried up. The prairies are brown.

Work at the station has consisted of hauling hay from the plots and dairy field and the cultivation of Sudan grass in rows. The harvesting of the winter wheat rotation plots is in progress.

Mr. K. S. Quisenberry, of the Division of Cereal Crops and Diseases visited the station July 16.

Maximum temperature 99; minimum 53; precipitation, .04 inch.

AKRON:

The past week has been excessively hot with no worth-while relief from the drought, which is becoming serious for fall-maturing crops. Corn is trying to tassel at a height ranging between knee and waist high. Beans and potatoes are making no appreciable growth; blister beetles have damaged potato tops despite efforts to poison them. Millets show very unsatisfactory stands.

Harvesting has held attention of all the teams and all the men during the past week with the result that about one more day with one team will complete this important work. Nursery harvesting always requires considerable man-power.

A storm approached Wednesday evening, July 15, from the southwest but brought mostly wind which tossed newly shocked grain about rather promiscuously.

Akron, continued:

Grasshoppers again threatened to damage important rotation crops when they concentrated on the corn and sorghum plots from the harvested small grain plots. Six hundred pounds of poisoned bran was scattered, mainly on these rotation plots, on three different mornings this past week, beginning the work at 4:00 a.m. Hopperdozer was also run but with only mediocre results, since the hoppers have wings and sail away on the air in advance of the machine. It appears by this week-end that the extreme menace to the rotation plots was abated but there are still plenty of grasshoppers present on the rotation block, and already the rotation corn has been 10 to 15 per cent defoliated. This station has had grasshopper menaces before but nothing to compare with the threat this season.

County Agents from Eastern Colorado, together with certain experiment station workers, met here Thursday, July 16, on the first day of a three-day conference which was concluded at Sterling. Prominent Extension workers were Messrs. J. E. Morrison, Assistant Director for Colorado, A. C. Allen, County Agent Leader, O. S. Fisher, Extension Agronomist from the Washington Office. Prominent Experiment Station workers were Messrs. Alvin Kezer, Chief Agronomist of the Colorado Station, D. W.Robertson and R. D. Hockinsmith of the Agronomy Department, H. B. Osland, of the Animal Husbandry Department, H. J. Gramlich of the University of Nebraska, and L. C. Aicher, of the Fort Hays, Kansas, Station.

Maximum temperature 104; minimum 54; precipitation, .09 inch.

NORTH PLATTE:

Hot, dry weather continues. A shower of .28 inch Sunday morning, July 12, brought some relief, but high temperatures have prevailed since. A new high for the season was 102 degrees on July 16.

The chief work for the weekwas the completion of small grain harvest, irrigation of corn and potatoes on the bench, and fighting grasshoppers.

In the grasshopper offensive, several hundred pounds of poisoned-bran have been distributed. About 10 bushels of hoppers have been collected with a hopper catcher and turkeys are being pastured on other areas. All of these methods produce some results, but none brings about complete control.

Threshing will be under way during the coming week if weather permits.

GARDEN CITY:

Threshing of small grains was finished on the Dry Land Station July 18. Yields were much above normal. Wheat yielded as high as 36 bushels per acre and as low as 15 bushels. Straw was very heavy. Most of the plots showed effect of moisture shortage at filling time. Grain was slightly shrunken and shiveled.

Sorghums are making rapid growth and show no indication of moisture shortage. Corn is beginning to tassel on some plots.

Preparation of wheat seed-beds will start next week.
Maximum temperature 104; minimum 93; precipitation, .06 inch.

TUCUMCARI:

Crops have grown exceptionally fast the past week, for weather conditions have been very favorable. Two showers totalling .76 inch were very beneficial.

The greater part of plot and increase plantings was cultivated or knifed, the tractor cultivator being used on considerable increase and plot land. While the tractor equipment was made for rows not to exceed 42 inches, there was very little work necessary to change all equipment so it would successfully handle 44 inch rows.

A light crop of Compass cherry-plums was picked, early apples have matured, and the Opata plum produced well, its third year after planting. Plums, with the exception of the Opata, and apples were badly hail damaged in late May, nearly all fruit being mis-shapen when picked.

The peak of the wheat harvest on the plains portion of the county is past, although considerable acreage is still standing. Farmers are storing or piling on the ground a good part of the crop, for the past ten days the market has dropped from 30 to 25 cents. Most of the crop in Quay county is produced 30 to 40 miles from a railroad, so hauling charges this year have taken a heavy toll of the returns, even at the low rate of 6 cents per bushel on basis of a 40-mile haul to market. Yields are at least as high as anticipated, ranging as high as 40 bushels, with perhaps a 22-bushel average. About 100 cars have been shipped from Tucumcari to date, which is more than has been shipped from here any previous year.
Maximum temperature 99; minimum 64.
Wind velocity, 5.3 miles per hour; evaporation, 2.691 inches.

DALHART:

The weather has remained favorable for field work during the week. The only rain of the week was Friday night, July 17, and amounted to only .30 inch. This brings the July rainfall to 2.10 inches, which has all fallen in light showers.

Cultivation of row crops, hoeing, making stand counts, and rethinning of late planted sorghums have occupied the time of the station force during the week. The threshing of small grains was completed on July 13 and 14. Yields of oats were the lowest of the small grains. Oat yields varied from 1.9 bushels to 29.4 bushels to the acre. Yields of winter rye varied between 2.5 bushels to the acre on late fall plowing to 20.7 bushels on fall plowing. Barley on early fall plowing yielded 17.9 bushels to the acre. The average yields in bushels per acre of four winter wheat varieties from triplicated plots are: Blackhull, 40.9; Turkey, 39.6; Tenmarq, 37.9;Kanred, 37.6. This was a very uniform test throughout the growing period.

Soybeans and corn are growing rapidly. Cowpeas and cotton are just starting vigorous growth. The sorghums are growing fast and apparently suckering fully as much as usual. The early sorghums are just starting to head and coincidentally the sparrows are starting to come in thick.

The last of the early fall plowed plots were plowed just as soon as the threshing was completed.

While the temperatures were not excessive during the week the heat was very noticeable.

Maximum temperature 98; minimum 62; precipitation, .30 inch.
Wind velocity, 5.8 miles per hour; evaporation, 2.633 inches.

BIG SPRING:

Field work was possible only during the first part of the week. On the morning of July 16 a hard, dashing rain, totalling .68 inch was received. This fell within such a short time, and came with so much force that a large amount of run-off occurred. This rain, added to the one of the previous week, has provided the station with excellent moisture conditions for this time of the year. All crops now present a very healthy color and are making a rapid growth.

Big Spring, continued.

Station work has consisted mainly of knifing and cultivating when possible. Other work consisted mainly of hoeing out fence rows and cutting weeds from the plots. Considerable dead wood and wind-broken branches were cleaned out of the orchard during the wet spell.

Mr. S. S. Burton, of the Woodward Field Station, is visiting the station and county in the interest of cooperative shelter-belt plantings.
Maximum temperature 96; minimum 70; precipitation, .68 inch.

LAWTON: (Report for the week ending July 11, 1931.)

Maximum temperatures varied from 88 to 101 during the week ending July 11. A light shower of .24 inch and moderately cool winds from the north for a day or two afforded a little temporary relief. A few neighborhoods in the county reported rains of an inch or more.

Corn has been silking and tasseling for some time under very unfavorable conditions of moisture and temperature, and it is likely that but little grain will be produced.

Sorghum crops and cotton have withstood the drought remarkably well, but injury is becoming very pronounced. Cotton is blooming and forming squares and the plants are half or less normal size.

Cowpeas have produced a very moderate growth of vine and an extremely light crop of seed.

Considerable threshing was done during the week as well as stubble disking and some row cultivating.

The total precipitation for June of 1.20 inches was 2.26 inches below normal. The total deficiency in rainfall from January 1 to June 30 inclusive is 6.66 inches.

Dr. R. H. Painter, of the Entomology Department, Kansas State College, was a station visitor July 13 and 14.

LAWTON:

A variation in maximum temperatures from 81 to 102 was recorded from July 12 to 18. Several showers occurred within the county that were very local and widely variable in quantity. A gentle rain on the 18th measured .65 inch in the station gauge. The lowered temperatures and the precipitation, even though very limited, afford very material relief to row crops, especially the sorghums that are heading.

The presence of only an extremely light infestation of chinch bugs this year affords a very clear cut opportunity to observe the effect of drought on sorghums that are free from such insect injury. This condition is rather rare in this vicinity.

Some threshing, tree watering, seed cleaning and miscellaneous work occupied the attention of the station force during the week.

About 50 men and women attended the quarterly meeting of Comanche County Farm Advisory Board at the station July 17. A joint meeting was held in the forenoon and separate meetings for men and women were held in the afternoon in which round-table discussions of pertinent and current farm problems were carried on. Tentative plans were made for a rather extensive farm picnic to be held on the station about August 17.

WOODWARD:

The past week has been without rainfall and high temperatures have prevailed. The threshing of wheat on the station was all but finished. Because of the heavy growth of straw that must be handled with bound wheat, threshing alone is costing nearly as much as the wheat will bring on the market.

Thinning of sorghums on the experimental plots was also practically finished. Sorghums with plenty of moisture still in the soil are growing very rapidly.

Constant attention to watering of seed beds and seedlings transplanted this spring has been necessary, as the surface few inches of this sandy soil dries very rapidly.

Some spraying has been necessary on grapes and shrubbery, and a number of chemical treatments have been given to grapes affected with chlorosis, in the hope of determining a cure.

Maximum temperature 101; minimum 69; precipitation, none.
Evaporation, 2.641 inches.

JUDITH BASIN:

A heavy shower of .78 inch the evening of July 15 has improved the crop outlook throughout this section. Some of the late seeded spring wheat, which looked to be a certain failure, has improved and with additional rains will give a fair yield. Crops seeded on fall plowing and those grown after sod have suffered more from the drought than those on other methods. Flax seeded on sod appears to be almost a total failure.

The twenty-second annual picnic of the Judith Basin Farmers' Picnic Association was held at the station on July 16. Following the rains of the previous day the weather and grounds were in perfect condition. The attendance by actual count was 2200, which was more than that of last year.

Station visitors during the week included Director F. B. Linfield and Dr. P. A. Young, of the Montana Experiment Station and Messrs. Salmon, Clark, Fellows and Boyle, all of the U. S. Department of Agriculture.
Maximum temperature 88; minimum 47; precipitation, .78 inch.

HAYS:

The temperature during the week ranged between 65 degrees and 99 degrees. Generally the weather has been fair and hot but broken occasionally by breezes verging on the order of hot winds and at other times by the appearance of threatening clouds which blustered around and finally vanished without rain. Farmers are already wishing for rain to soften the ground for tillage work. Corn is now wilting and even burning. It is just coming into tassel on the project, perhaps three to five per cent out and these are burning as they emerge. Should hot, dry weather continue a week or ten days longer it will make a zero for our 1931 corn crop on the project.

The crops on the project have not suffered the usual attacks of the various insect pests until the chinch bug began tapping the milo for cider about ten days ago. Some of the milo is now badly damaged. Corn and kafir are not badly infested.

Combining of winter wheat plots was finished July 14. Threshing of spring wheat, oats, and barley was done July 15 and 16. Our plot combine was dismounted the 17th, thus freeing the Caterpillar tractor for tillage work.

Hays, continued:

A few plots of sorghum were cultivated during the week, and seed-bed preparation for wheat was continued. This work includes the plowing and packing of Rotation 601 and the use of the lister, plow, one-way, chisel, and sweeps as the first tillage operation on wheat stubble. The lister, plow and the one-way were used on plots where the wheat stubble had been burned. Soil samples for nitrate determinations were collected on combine stubble plots being prepared, by different implements, for wheat.

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NOTE:

Under date of June 10, 1931, Dr. W. A. Taylor, issued B.P.I. Memo. 589, reading, as follows:

"Please note the following memorandum, dated June 9, 1931, from Mr. M. S. Eisenhower, Director of Information, in regard to the importance of furnishing the Office of Information with copies of all addresses and articles for outside publication:

'If the Department is to get the best distribution of its information, it is necessary that each bureau and office make special and continuous efforts to supply the Office of Information with copies of all addresses and all articles for outside publication. This applies to every person in the Department who delivers addresses or writes articles in his capacity as an employee of the Department.

'Copies of such addresses and articles should be supplied to the Office of Information as far as possible in advance of the date of delivery or publication. Whenever it can be done the date and hour of the address or the approximate date of publication should be given.

'Many offices have been regularly observing this requirement of the administrative regulations, but some have not. I wish that you would impress upon all the employees of your bureau the importance of observing it.

'Matters worth discussion before a meeting or in a single publication, even a technical one, frequently deserve much wider distribution.'

"Copies of addresses or articles for outside publication prepared by members of your staff should be furnished this office for forwarding to the Office of Information, at the time approval for presentation or publication is requested, if possible."

Whenever possible, such addresses or articles should be submitted to this office in triplicate.

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BUREAU OF
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WEEKLY STATION REPORTS

OF THE OFFICE OF

DRY LAND AGRICULTURE INVESTIGATIONS

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

July 25, 1931.

Not for publication without
prior consent of this division.

REPORT FOR THE WEEK ENDING JULY 25, 1931.

PENDLETON:

The rotation and tillage plots were harvested this week with the combine harvester. Grain weights on all plots have been secured, yields in bushels per acre have not been computed yet. About eighteen acres of spring wheat remain to be harvested.

A crew of four men are busy threshing the cereal nursery.
Maximum temperature 107; minimum 46.

HAVRE:

The week was very warm and unfavorable for growing crops. Maximum temperatures were over 100 on three days and under 90 on two days. Minimum temperatures were also high. Wind movement was rather low and evaporation was not unusually high.

Corn is showing the effect of dry weather. It is tasseling and silking now. A few of the plots and two of the commercial fields on the station look very well yet but they will soon be badly damaged if present conditions continue.

Oats and barley as well as spring wheat should be ready to harvest the coming week. Second cutting irrigated hay will be ready in a few days.
Maximum temperature 103; minimum 48; precipitation, none.

JUDITH BASIN:

Record-breaking temperatures during the past week have ruined whatever prospects there were for a crop. On two days during the week a maximum temperature of 101 degrees was recorded, which is a new record for this station. Only once before has a temperature of 100 degrees been recorded. The high temperatures have been accompanied by hot, searing winds. All small grains are drying up rapidly. Sixty-day oats have probably suffered the most. Several plots of oats are being harvested to-day, July 25. All fall-plowed plots are so short that they are being cut with a mower, equipped with a buncher attachment. Most of the flax is a complete failure.
Maximum temperature 101; minimum 49; precipitation, none.

HUNTLEY:

The past week has been extremely hot, maximum temperatures reaching 104 and 105 the last four days. Scorching winds during the day have increased in violence toward evening and resulted in smothering dust storms on several occasions. The high winds have caused more or less damage at the station and throughout the community by blowing down trees, telephone lines and light buildings. Wheat varieties harvested on the dry-land plots were also hopelessly scattered and mixed by the winds.

All crops remaining alive on the dry-land project have deteriorated greatly during the week. Much of the corn has burned white, whereas beans, potatoes and alfalfa are badly wilted. Brome and crested wheatgrass appear to be dead except along the edges of the plots where a few green shoots may be seen. Sudan grass and sorgo although having poor stands would still make a light yield of forage if rain were received soon.

Station visitors during the week included Professor Clyde McKee, of the Montana Station and Mr. J. A. Clark and Mr. Karl S. Quisenberry, of the Division of Cereal Crops and Diseases.

Maximum temperature 105; minimum 47; precipitation, none.

SHERIDAN:

Continued high temperatures, with high winds a part of the time, prevailed over the most of the week. Condition of crops still remaining green last week grew steadily worse. Only Sudan grass and sorgo in rows remain in fair condition.

Harvesting of small grain plots was continued throughout the week. The most of the small grain worth cutting has now been harvested except spring wheat in the rotations and a part of the varieties on fallow.

Mr. W. L. Quayle and Mr. K. S. Quisenberry visited the station during the week.

Maximum temperature 105; minimum 53; precipitation, trace.

DICKINSON:

Extremely hot and dry weather throughout the week has dried out all crops and hastened the ripening of grain. The maximum temperature on July 24 was 107 and to-day, July 25, the maximum of 108 is equal to the previous high record for the month. Corn and other row crops have wilted badly each day.

Dickinson, continued:

Considerable oats and barley and some wheat has been cut for hay in this district. An increase field of Victory oats on the station was cut for hay.

Visitors during the week included, Messrs. A. Osenbrug and Beyer Aune, of the Newell, South Dakota, Field Station; A. C. Dillman, R. W. Leukel, J. A. Clark and K. S. Quisenberry, of the Division of Cereal Crops and Diseases; Frederick Sohn, of Germany, and R. Taylor and W. H. Jones, of England, students of economics at Harvard during the past year.

Maximum temperature 108; minimum 48; precipitation, none.

MANDAN:

Agronomy

The past week has been hot and dry. Very hot winds occurred onone or two days.

All small grains are ripening rapidly and will be ready for harvest early in the week.

All crested wheatgrass and bromegrass have been cut for seed. A seed block of Ceres wheat was harvested.

Corn is about at a standstill and curls some during the day. The prospects for a heavy crop have been reduced during the week.

Maximum temperature 103; minimum 69; precipitation, none.

Cooperative Grazing Experiment

Native vegetation has dried up a good deal during the week. Many brown spots now appear in the pastures. The cattle in the brome pastures will soon have to be moved.

Horticulture

Sweet corn breeding work was started July 21 with bagging of ear shoots. Pollination was commenced on the 23rd and has continued steadily since. About 300 have been made to date. This season is bringing out many interesting facts in this project. Entire lines show marked vigor with absence of smut, firing susceptibility and other constitutional weaknesses,

Mandan, continued:

Horticulture, continued.

while others exhibit these faults in varying degrees. Much selfing of the best lines is carried on this year in order to work up good material for crossing again next year. Last year's crosses are looking very promising, but being planted later than the continuously selfed lines, not much can be said about them at present.

Other vegetable breeding projects still continue promising, but the heat and dry weather of the last week is telling on them.

Vegetables from the acre and coulee gardens are coming in fine with cabbage, tomatoes, peppers, summer squash, and potatoes being added to the list mentioned in last weeks newsletter.

The hot, dry weather has encouraged weed growth and much of the labor allotted to the horticultural section of the station work has been employed continuously on the hoeing and cultivating of the various field projects.

Arboriculture

Mr. E. J. George left the station July 7 on an inspection trip through western North Dakota. He is expected back on the 27th. He reports that this year's tree plantings are nearly everywhere holding out wonderfully, and give promise of good stands.

The tree nurseries and seed beds have been persistently cultivated and irrigated during the month, and some 900 pounds of caragana seed have been picked (weight in pods).

The number of farmers and others visiting the station during the week was larger than usual. Among these were the following: Messrs. Beyer Aune and A. Osenbrug, Field Station, Newell, South Dakota; A. C. Dillman, Flax Investigations, Washington, D. C.; E. G. Booth, E. H. Jones, T. E. Stoa, North Dakota Experiment Station; H. R. Sumner, R. C. Billings, N. W. Crop Improvement Association, Headquarters, Minneapolis, Minn; D. H. Jones (Wales) Robert Taylor (Scotland) Frederick Sohn (Germany) doing graduate work at Harvard University.

BELLE FOURCHE:

Abnormally hot weather has continued during the week, and strong, hot winds have been of frequent occurrence. Aside from one light thunder shower, no precipitation was received.

Corn is burned beyond possible recovery on all cultural treatments except summer fallow, and has not made sufficient growth on most of the plots to permit harvesting. Corn on fallow is tasseling very short, but has not commenced to burn, and will produce some grain if rain is received in the near future. Potatoes have burned badly, and sorgo is showing signs of suffering seriously from lack of moisture. Harvesting of the remainder of the small grain on the dry land rotations was completed.

Maximum temperature 105; minimum 50; precipitation, .04 inch.

ARDMORE:

Another hot, rainless week caused further deterioration in the cultivated crops. Corn is almost past the stage where it can produce ears, and will probably produce no grain. Sorgo is heading out very short.

Threshing in the rotations with the exception of the delayed-seeding wheat was completed during the week. Yields of all crops were low, and the quality of grain was poor. The maximum, minimum and average yields were as follows:

	Maximum	Minimum	Average	Weight per bushel
Spring wheat	9.2	0	3.7	55
Winter wheat	8.3	0	2.3	55
Barley	10.2	0	5.5	40
Oats	21.6	0	5.1	25
Flax	0	0	0	0

The temperature was above 100 degrees five days of the week, and reached 107 degrees on two days. This makes the fourth time this month that the temperature has equalled or exceeded the previous all-time record. The end of the hot wave does not appear to be in sight as the temperature is 105 degrees this noon, July 25.

The minimum temperature for the week was 51 degrees. On two nights the minimum was 75 degrees. There was no precipitation.

ARCHER:

During the past week the weather has continued hot and dry with a maximum temperature of 90 degrees or more on five different days. The minimum temperatures are beginning to approach normal summer temperatures. A shower of .27 inch occurred July 19 and one amounting to .08 inch occurred July 20. These showers caused slightly cooler weather on the dates of occurrence.

Small grains are maturing rapidly. Corn, potatoes, and beans are much in need of rain. Millet rolls very badly and Sudan grass is beginning to burn. The prairies are brown and dry.

Work at the station consisted of the cultivation of Sudan grass in the dairy field; the cutting of 20 acres of Horn barley, which on this date is being hauled and stacked, July 25; and the harvesting of winter wheat and barley on the rotation and varietal plots. The early varieties of spring wheat and oats have also been harvested. The beans in the dairy field are being hoed.

Mr. Wm. A. Riedl, Assistant Plant Pathologist of the University of Wyoming, and County Agent E. O. Johnson visited the station July 23.
Maximum temperature 98; minimum 51; precipitation, .35 inch.

AKRON:

Local shower approached from the northeast late in the evening of Sunday, July 19, which brought hail and rain that totalled 1.26 inches. This was the first precipitation of any consequence since June 29 and the moisture was badly needed. The hail did considerable damage to the row crops by lacerating the plants and the hail and rain together fell with such vehemance as to tightly crust the surface soil. There was considerable run-off because of this, though the soil surely was dry enough to have absorbed every drop if only it had fallen properly. Ground under orchard trees was covered with beaten-off leaves; however, the bark was not injured, particularly on the older trees.

Millets seeded right after the rains of late June did not emerge to satisfactory stands, and it was felt that better stands might follow this late rain, consequently the rotary hoe was run over these plots in an effort to break the surface soil crust. All row crops also were shallowly cultivated during the week for the purpose of breaking surface soil crust and creating better surface soil tilth. Other work consisted of cultivating cereal variety

Akron, continued:

fallow and other open blocks of fallow land. Other work was the completing of the small grain harvest. These plots which stood through the hail appeared to have been damaged fully 90 per cent. Mid-month seedings of date-of-seeding beans and millets experiments were made following this rain and hail with best prospects for emerged stands of any seedings thus far made. Other work was threshing, hoeing weeds, and removal of the sheep rotation fences.

Winter wheat on rate-and-spacing-corn project was threshed during the week, as also was the winter wheat variety experiment. Better variety yields on fallow ran 16 to 18 bushels per acre. Winter wheat yields on the rate-and-spacing-corn project ran from 8.7 bushels per acre on the 44x12 spaced corn to 13.7 bushels per acre on the 88x12 spaced corn. Two plots of winter wheat on potato land in this experiment averaged 16.8 bushels per acre.

Row crops are resuming active growth very slowly. Corn is tasseled and is shooting at this week-end; it is a little less than waist high. It now looks like corn harvest with the grain binder rather than the row-crop binder.

Quite a number of farmers visited the station following the rain and hail, there being a temporary respite in the field activites.

The past week has been very hot each and every day.
Maximum temperature 101; minimum 47; precipitation, 1.26 inches.

NORTH PLATTE:

There has been no change in the drought situation here. Temperatures have remained high and moisture absent. A new maximum for the season to date was reached with 105 degrees on July 22. This is the highest record since July, 1926.

Threshing has been in progress all week; dry land rotations were finished July 22, and varieties will be finished to-day, 25th. Yields for the most part have not been computed, but are somewhat better than was anticipated. In field 42, 44 plots of winter wheat averaged 33.1 bushels per acre. On fallow, 12 plots averaged 53 bushels. The 32 plots exclusive of fallow averaged 25.9 bushels. Corn is suffering severely and as it is now entering the critical time of tasseling and silking, the condition will decline rapidly unless moisture conditions improve.

COLBY:

The weather during the last two weeks has been mostly hot with occasional cloudy and cool periods. Showers on the 16th and 19th have kept the corn and sorghums growing apace. Corn is tasseling and earing, and some of the sorghums are showing heads in the boot. Seldom have the row crops looked more promising at this time of the year. Grasshoppers are numerous and in some fields are doing considerable damage.

Early preparation of ground for winter wheat on the project has been done under very favorable conditions. All the plots had sufficient moisture for good tillage. In fact, on some plots the ground was almost too wet for the best work. The new gang two-way, tumbling-bug, plow worked very nicely behind the caterpillar tractor.

The milo, feterita, kafir, and sumac sorgo plots were cultivated this week after the rain, and the fallows were all duck-footed, except the one where the one-way only is used. There were practically no weeds on any of the plots.

The average yield of the winter wheat plots was 25.2 bushels. The fallows averaged 32.2 bushels, ranging between 13.0 and 41.2 bushels. The continuous cropped plots averaged 11.2 bushels, ranging between 6.0 and 14.7 bushels. MC.A, late plowed, yielded 9.0; MC.B, early plowed, yielded 6.0.

The barley yields averaged 10.4 bushels, ranging between 6.0 and 19.8 bushels, the latter on fallow.

The oat yields averaged 12.2 bushels, ranging between 3.4 and 17.8 bushels, the latter on early fall plowing.

Maximum temperature 103; minimum 53; precipitation, .77 inch.

GARDEN CITY:

Early fall plowing, listing and preparation of seed beds were started this week. We do not have all our new power equipment and the early one-waying will have to wait until about August 15. Ground worked up in excellent condition due to a nice rain on the 20th, which thoroughly wet the subsoil and is stimulating rapid growth of sorghums.

Corn is beginning to tassel on the dry land station. All fallow plots, roadways and extra ground were cultivated the last part of the week. An effort will be made to cultivate the entire row crop once more.

Maximum temperature 103; minimum 57; precipitation, 1.40 inches.

HAYS:

The weather generally has been dry and hot although some of the nights have been quite cool. Temperatures have ranged between 58 and 105 degrees with only a trace of precipitation for the week.

Corn continues suffering very much from heat and drought. Sorghums are wilting badly, but are not yet damaged except for the earliest varieties which are now heading.

Work on the project during the week has consisted largely of tillage of wheat stubble land and fallow for wheat, and a general clean up of weeds which got a good start during harvest. Work on the commercial fields of the station has consisted largely of putting up the second crop of alfalfa and tillage work for wheat.

DALHART:

The past week has been hot and dry. The early sorghums are heading out short. Corn is just starting to tassel. Both the corn and the early sorghums roll during the hot part of the day. The soybeans are blooming and still have a thrifty appearance. The cowpeas and cotton are making slow progress but have recently started good top growth.

Work during the week has consisted of cultivating row crops, hoeing, stand counting, trimming plots, and bagging sorghum seed heads and smut heads in the sorghum smut nursery.

All crops are showing the need of moisture. Native sod is dried as are likewise weeds except in row crops. The crops are standing the drought remarkably well. This is partly due quite likely to the low wind movement.

Maximum temperature 100; minimum 61; precipitation, none.
Wind velocity, 3.8 miles per hour; evaporation, 2.302 inches.

LAWTON:

Precipitation from July 17 to 20 inclusive, amounted to 4.48 inches. About three inches fell very gently, permitting practically no run-off. The remainder fell rapidly and furnished liberal supplies of stock water. These rains were quite general over the western part of the state, and varied from inconsequential showers to cloudburst proportions.

Lawton, continued:

The ground was thoroughly soaked in local territory, and row crops show a marked development. With the exception of the dwarfed height of the sorghum crops, broomcorn excepted, there is no evidence of the long summer drought that has existed. Good yields of sorghums now seem practically certain on the earlier planting dates. Cotton is making an extremely rapid plant growth at present.

The intense sunshine and humid atmosphere that followed the rains caused wheat, oats and barley, in the shock, to sprout within about 36 hours. The shocks were opened and dried as soon as possible and a good many of the plots stored in the barn with only slight damage to the grain. Some threshing was done the last of the week.

Renewed growth of grasses, and both native and cultivated legumes, is quite noticeable. Alfalfa fields and sweet clover plots were clipped, the latter quite high to check weed growth.

Bird damage to sorghums that are heading is under control so far.

Maximum temperatures for the week varied from 75 to 99. With little wind movement prevailing the high degree of humidity made the heat torrid and oppressive. This week is the first time that as much as an inch of rainfall has been recorded on the station on any one date since December 4, 1930.

WOODWARD:

The past week has been without rain except one very light shower. There have been three days when the temperatures exceeded 100 degrees. The high temperatures, coupled with almost an absence of air movement, have made living conditions uncomfortable. Corn and other vegetation, except the sorghums, are burning rapidly. Sorghums on land where there was plenty of stored moisture are growing rapidly, and some of them are heading unusually early.

All wheat threshing was finally finished this week. Watering of seed beds has become a daily routine. Work on almost 200 additional dry land plots was started. These consist largely of methods of preparation for wheat. A thorough clean-up of all roads and fence rows was started.

Mr. George Phillips, State Forester, was a visitor the 25th.
Maximum temperature 106; minimum 65; precipitation, .12 inch.
Evaporation, 2.138 inches.

NOTE:

The following memorandum has been received:

"B.P.I.Memo.No.593.

July 28, 1931.

MEMORANDUM FOR HEADS OF DIVISIONS.

Gentlemen:

In future in submitting papers by members of your staff for approval by the Chief of Bureau for outside publication or presentation at meetings, it is requested that the form letter, a supply of which is enclosed, be used. In requesting permission for the presentation of papers at meetings, such form letter should be attached to and submitted with Form 61, as is indicated in the letter.

Very truly yours,

sgd. K.F.Kellerman

Acting Chief of Bureau."

In order that members of the staff may know the information desired copies of the form letter and Form 61 are inclosed herewith. Papers and addresses should be sent to this Division in triplicate.

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